Abstract

Polymers for cement dispersing admixtures, which show different performing properties in concrete are described. All polymers are based on a composition of reactants, namely

a) a poly(acrylic acid), b) a polyalkyleneglycol-monoalkylether and, optionally c) a α-amino-polyalkyleneglycol-ω-alkylether and/or d) a primary or secondary amine. By keeping the composition of reactants constant and varying only the reaction time, polymers with different properties can easily be achieved. Such polymers are suitable for pre-cast, readymix or for increasing workability over time, just depending on reaction time. Polymers of the invention can be used as single polymer or in polymer blends. For this, the kinetics of the used polymer analogous condensation reaction was intensively studied. Additionally, the benefit of amines as reactant regarding stability and hydrolysis velocity of cleavable side groups was investigated.